





Membangun Gateway Internet, Web Proxy, DHCP Server dan Firewall Dengan Routerboard Mikrotik RB-951

# MATERI PAKET 2 UJIAN PRAKTIK KEJURUAN TKJ

SMK Negeri 1 Empat Lawang Tahun Pelajaran 2018/2019

Instruktur TKJ :

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## Topologi UKK – Paket 2 - 2019

### SOAL/ TUGAS PAKET 3 UKK TKJ 2016/2017 :

Dalam kegiatan uji kompetensi ini anda bertindak sebagai Teknisi Jaringan. Tugas anda sebagai seorang Teknisi Jaringan adalah merancang bangun dan mengkonfigurasi sebuah *Wifi Router* berfungsi sebagai *Gateway Internet*, Web Proxy, DHCP *Server* dan Firewall, kemudian internet tersebut di*share* ke *client* melalui jalur kabel dan wireless.

Dengan konfigurasi sebagai berikut:

*network* ke **Internet** 

## Konfigurasi Wifi Router

1.	Sistem operasi	= Mikrotik RouterOS
2.	DNS	= Sesuai dengan DNS yang diberikan ISP
3.	NTP	= Yes
4.	WebProxy	= Yes
5.	Cache Administrator	= <u>nama_peserta@sekolah.sch.id</u>
Ether1:		
6.	IP Ether1	= Sesuai dengan <i>Network</i> yang diberikan ISP
7.	Gateway	= Sesuai dengan IP yang diberikan oleh ISP
Ether2:		
8.	Terhubung dengan kab	bel ke switch dan PC
9.	IP <u>Ether2</u>	= 192.168.X.1/24
10.	DHCP Pool	= 192.168.X.2-192.168.X.100
11.	Redirect Access	= ketika akses ke http:// <u>www.mikrotik.com</u> dialihkan ke website
	http://bnsp-indonesia.c	<u>ng</u>
12.	Buat firewall agar IP 1	92.168.X.2-192.168.X.50 tidak dapat ping ke router
13.	Buat rule agar setiap a	kses ke router tercatat di <i>logging</i>
14.	Buat rule filter yang	mengijinkan permintaan HTTP dan HTTPS dari CLIENT

WLAN 1 (WLAN Interface):

- 13. IP WLAN 1 = 192.168.Y.1/24
- 14. SSID = nama\_peserta@Proxy
- 15. DHCP *Pool* = 192.168.Y.2-192.168.Y.100
- 16. *Blocking Site* = http://www.linux.or.id
- 17. *Blocking File* = .mp3, .mkv
- 18. *Blocking Content* = Block setiap konten yg mengandung kata "mikrotik"
- 19. Buat firewall yang memblokir akses internet melalui jalur wireless mulai pukul 19:00 (malam)– 07:00 (pagi).
- Ket : X  $\rightarrow$  Merupakan daftar IP UKK yang ditetakan

 $Y \rightarrow$  IP UKK ditambah 1 cth. Ip ukk 15 ditambah 1, berarti Y = 16

## **B. ALAT DAN BAHAN**

- 1. Mikrotik Router-Board 951
- 2. Switch 8 Port
- 3. PC Client
- 4. Kabel UTP
- 5. Konektor RJ45
- 6. Tang Crimping
- 7. Pengupas Kabel
- 8. LAN Tester

= 1 Buah = 1 Buah = 1 Buah

= 1 Buah

= 1 Buah

= 1 Buah

= 6 Buah

= 10 Meter

## **A. PEMBUATAN KABEL STRAIGHT**

TIA/EIA 568B KONEKTOR B **KONEKTOR A** PIN 1 Putih Orange PIN 1 **Putih Orange** PIN 2 PIN 2 Orange Orange Putih Hijau PIN 3 Putih Hijau PIN 3 PIN 4 Biru PIN 4 Biru PIN 5 Putih Biru PIN 5 Putih Biru PIN 6 Hijau PIN 6 Hijau PIN 7 Putih Coklat PIN 7 Putih Coklat PIN 8 Coklat PIN 8 Coklat

(Gambar 1. Susunan Kabel Straight)

- 1. Persiapkan alat dan bahan yang dibutuhkan sesuai dengan daftar kebutuhan peralatan dan bahan
- 2. Kupas Isolasi kabel dengan menggunakan pengupas kabel di bagian ujung kabel



- 3. Rapikan kabel yang telah dikupas dan urutkan warna kabel sesuai dengan standar TIA/EIA 568B (Lihat Gambar Susunan Kael Straight)
- 4. Perkirakan ukuran panjang kabel dengan melihat kedalaman konektor, Selanjutnya potong kedua ujung kabel dengan menggunakan Tang Crimping.



5. Masukkan kabel pada konektor RJ-45, kemudian kunci kabel dengan menggunakan Tang Crimping



6. Uji sambungan kabel dengan menggunakan Tester



# **B. KONFIGURASI MIKROTIK RB-951 DENGAN WINBOX**

# Step 1.

## Persiapan Topologi untuk Me- Remote Mikrotik

Menyambungkan Komputer ke Port 2, Kabel sumber internet ke Port 1 pada Mikrotik dengan menggunakan kabel straight seperti terlihat pada gambar dibawah ini :



# Step 2.

## Konfigurasi IP Address PC Client Secara Automatic

- 1. Menghidupkan Komputer
- 2. Memasangkan adaptor sumber listrik untuk router mikrotik





Sudah ter-Disable

Search Network Connection

# Step 3.

## **Matikan Windows Firewall**

- 1. Klik Start Windows → Control Panel → Windows Firewall
  - Programs and Features
     RemoteApp and Desktop Connections
     Taskbar and Start Menu
     Windows Firewall
- 2. Pilih Turn Windows Firewall on or off
  - Change notification settings
     Turn Windows Firewall on or off
     Restore defaults
     Advanced settings Troubleshoot my network
- 3. Matikan Seluruh Firewall seperti terlihat pada gambar dibawah



4. Klik tombol OK dan tutup Control Panel. Pastikan hasilnya seperti gambar dibawah.

Update your Firewall settings Windows Firewall is not using the recommended settings to protect your computer. What are the recommended settings?	🚱 Use recommended settings
8 Private networks	Not connected 🕑
😵 Guest or public networks	Connected 🔿
	Update your Firewall settings Windows Firewall is not using the recommended settings to protect your computer. What are the recommended settings? Private networks Guest or public networks

# Step 4.

## Melakukan Remote Mikrotik dengan Winbox

- 1. Koneksi ke Router Mikrotik dengan WinBox
  - a. Buka Aplikasi WinBox pada computer



c. Setelah selesai Click tombol Connect

🔘 MikroTik V	WinBox Loader v2.2.18	<b>.</b> . <b>. .</b>
Connect To:	08:00:27:29:BA:A9	Connect
Login:	admin	
Password:		
	Keep Password	Save
	Secure Mode	Remove
	Load Previous Session	Tools

- d. Menu konfigurasi Mikrotik akan terbuka
- 2. Lakukan Reset Router dan Pastikan ter-Reset dengan baik.

Routing	Logging	
System	Packages	Poort Configuration
Queues 1	Password	
Files	Ports	3 ✓ No Default Configuration
A Radius	Reboot 2	Do Not Backup
🗙 Tools 🗈	Reset Configuration	Run After Reset:
New Terminal	Resources	

**3.** Aplikasi Winbox akan terputus/disconnect, ulangi lagi langkah a sampai c diatas untuk menghubungkan kembali router dengan aplikasi dan router siap untuk dikonfigurasi.

# Step 5.

## Melakukan Konfigurasi Mikrotik Sesuai Soal

## 1. Konfigurasi Name-Interface

a. Klik menu Interface --> Tanda tambah (+) / add --> Double klik interface ether1 --> Ubah dengan nama "public" ---> Klik OK

🄏 Quick Set	Interface List	[
I CAPsMAN	Interface Ethemet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE	
🛲 Interfaces	+ V X Interface <ether1></ether1>	
🔔 Wireless	Name General Ethemet Overall Stats Rx Stats Tx Stats <b>4</b> OK	
🕌 🖁 Bridge	Asterna Name: public	
🛒 PPP	R Sether3 2	
🛫 Switch	Apply	
°t¦8 Mesh	All the second s	
255 IP D	L2 MTU: 1598	
MPLS	Max L2 MTU: 2028	

b. Lakukan hal yang sama pada interfaces ether2 --> ganti dengan nama "dhcp" --> Klik OK

🚊 CAPsMAN	Interface	Ethemet	EoIP Tunnel	IP Tunnel	GRE Tunne	VLAN	VRRP	Bonding	LTE	
🛲 Interfaces	<b>+</b> ▼ -	🖌 🗙	Interface <e< th=""><th>ther2&gt;</th><th></th><th></th><th></th><th></th><th></th><th></th></e<>	ther2>						
🔔 Wireless	Name	•	General	Ethernet 0	verall Stats	Rx Stats	Tx State	s	7	ОК
📲 Bridge	< >et	her2		Name:	hen			1		Cancel
📑 PPP	R <pet< th=""><th>her3 her4 5</th><th>-</th><th>T F</th><th></th><th>6</th><th></th><th></th><th></th><th>Cancer</th></pet<>	her3 her4 5	-	T F		6				Cancer
🛫 Switch	<>et	her5		Type: E	themet					Apply
° <mark>t</mark> ₿ Mesh	I ¥ Abud	ublic	_	MTU: 1	500	· · · · · · · · · · · · · · · · · · ·				Disable
<u>≊55</u> IP ►				L2 MTU: 1	598			_ ▲		Comment
🧷 MPLS 💦 👌			Max	L2 MTU: 2	028					Commont
🔀 Routing			MAC	Address: E	4:8D:8C:47:6	D:17				Torch

### c. Aktifkan Interfaces Wlan1 ---> klik ceklis ( v )

Inter	Interface List									
Inte	erface Ethemet	EoIP Tunnel IP T	unnel GRE Tunne	VLAN VRRP	Bonding	LTE				
+										
	Name g	🛆 Туре	L2 MTU	Tx	Rx		-			
	<>dhcp	Ethernet	1598		0 bps		0 bps			
R	ether3	Ethernet	1598	69.	6 kbps		1664 bps			
	ether4	Ethernet	1598		0 bps		0 bps			
	ether5	Ethernet	1598		0 bps		0 bps			
	<>>public	Ethernet	1598		0 bps		0 bps			
	♦ wlan1	Wireless (Athere)	os AR9 1600		0 bps		0 bps			

#### d. Hasil konfigurasi name interface.

Inte	face	Etheme	t Eol	IP Tunnel	IP Tunnel	G	RE Tunnel	VLAN	VRRP	Bond	ling
+											
	Name	е	A	Туре			L2 MTU	Tx			Rx
	<b>≮</b> ≯dł	пср		Ethernet			1598			0 bps	
R	<b>≮</b> ≯et	her3		Ethernet			1598		69.6	6 kbps	
	<b>≮</b> ≯et	her4		Ethernet			1598			0 bps	
	<b>≮</b> ≯et	her5		Ethernet			1598			0 bps	
	<b>≮i≯</b> pi	ublic		Ethemet			1598			0 bps	
	₩	lan1		Wireless	(Atheros AR9	)	1600			0 bps	

e. Konfigurasi SSID, Double Klik interfaces Wlan1 yang sudah diaktifkan ---> Klik Mode ---> pilih ap bridge ---> klik SSID ---> ganti dengan "Dodi\_Asril@Proxy" (Nama\_Siswa) ---> Klik OK

	<>dhcp	Interface <wlan1></wlan1>		1		×
R	ether3					=
	ether4	General Wireless	HT WDS Nstreme	NV2	5 OK	
	ether5	2 7			1	4
	<>>public	Mode	: ap bridge	3 Ŧ	Cancel	
	& wlan1 7 1	Band	: 2GHz-B/G	₹	Apply	
		Channel Width	: 20MHz	<b>T</b>	Disable	
		Frequency	: 2412	▼ MHz	Comment	ī
		4 SSID	: Dodi_Asril@Proxy		Comment	_
		Scan List:	: default	<b>Ŧ \$</b>	Torch	_
		Wireless Protocol	any	Ŧ	Scan	

2. Lakukan Konfigurasi IP Address pada setiap Ethernet. Klik pada Menu IP ---> Address ---> Isi IP sesuai dengan Interfacesnya.

🗯 Interfaces		Addrage List			
🔔 Wireless					
😹 Bridge		4 <sup>5</sup> A	ddress <192.168.110.80/24>		Address < 152.100.01.1/24>
🚅 PPP					Address Address: 192 168 81 1/24
🛫 Switch	100	Address /	Address: 192.168.110.80/24	5 OK	⊕ 192
°18 Mesh	ARP	÷ 192.	4		
∰ P 1 📌	Accounting	1	Network: 192.168.110.0	Cancel	
🥢 MPLS 🛛 🗈	Addresses				Interface: wlan1 T
🔀 Routing 💦 🗈	Cloud	l Ir	nterface: <i>public</i> +	Apply	7499
🌐 System 🗈	DHCP Client		R		
Rueues	DHCP Relay			Disable	C- Disable
Files	DHCP Server		•		
E Log	DNS	Address List			1 A 11 - 11 - 11 - 11 - 11 - 11 - 11 -
📌 Radius	Firewall	7 ddicaa Bat			Address List
🗙 Tools 🗈	Hotspot	. 💠 💻 🗛	dress <192.168.80.1/24>		
Mew Terminal	IPsec	6	7		
MetaROUTER	Neighbors	Address A	Address: 192.168.80.1/24	9 OK	
	D 11	- <b>D</b> + <b>A</b> = <b>A</b>			Address ( Network Intertage
🕭 Partition	Packing	<b>T</b> 192			Address / Inetwork Interface
Partition Make Supout.rif	Packing Pool	〒192 宁192 N	letwork: 192.168.80.0	Cancel	☆ 192.168.80.1/ 192.168.80.0 dhcp
<ul> <li>Partition</li> <li>Make Supout.rf</li> <li>Manual</li> </ul>	Packing Pool Routes	守 192 令 192 N	Network: 192.168.80.0	Cancel	中日本 192.168.80.1/ 192.168.80.0 dhcp 中192.168.81.1/ 192.168.81.0 w/an 1
Partition     Make Supout.rf     Manual     Exit	Pool Routes SMB	단 192 192 N	letwork: 192.168.80.0 ▲ terface: dhcp ∓	Cancel Apply	
Partition     Make Supout rif     Manual     Exit	Pool Routes SMB SNMP	· 192 - 순 192 N	letwork: 192.168.80.0 ▲ nterface: dhcp ∓	Cancel Apply	ポロdress / Network / Interface     中192.168.80.1/ 192.168.80.0 dhcp     中192.168.81.1/ 192.168.81.0 w/an1     中192.168.255.8 192.168.255.0 public

### 3. Lakukan Konfigurasi Routing, menu IP $\rightarrow$ Routes $\rightarrow$ (+) / add $\rightarrow$ IP Gateway = 192.168.110.1

• • Mesh	ARP		
255 IP 1	Accounting		
// MPLS	Addresses		
Routing	Chaid	Routes Nexthops Rules VRF	
Svstem	DHCP Client		
Queues	DHCP Relay 3		Find all 🔻
Files	DHCP Server	Det Addrese / Gateway	Distance Routing Mark Pref Source
E Log	DNS	DC 102 100 110 0/24 aublic upprochable	255 102 100 110 00
A Radius	Firewall	DC P 152, 166, 110,0/24 public unleachable	200 102.100.110.00
🗙 Tools 🗈 🗈	Hotspot	New Route	
Mew Terminal	IPsec		
MetaROUTER	Neighbors	General Attributes	5 <sub>OK</sub>
Partition	Packing		7
Make Supout.nf	Pool	Dst. Address: 0.0.0.0/0	Cancel
Manual	Routes 2		
Ext	SMB	Gateway: 192.168.110.1	
	SNMP	4 7	
	Services	Check Gateway:	▼ Disable
	Settings	Cicch Caleway.	

## 4. Konfigurasi DNS, menu IP → DNS → 192.168.110.1,8.8.8.8

	Accounting	DNS Settings	
	Addresses	Servers: 192.168.110.1	5 OK
Routing	Cloud	8.8.8.8	Cancel
System	DHCP Client	Dynamic Servers:	Apply
Queues	DHCP Relay		
Files	DHCP Server	4 ✓ Allow Remote Requests	Static
Log	DNS 2	Max UDP Packet Size: 4096	Cache
A Radius	Firewall	Query Server Timeout: 2.000 s	
Ve Toola	Hotspot		

5. Konfigurasi DHCP Server Interface DHCP, buat range ip 2 - 100



DHCP Networks Leases Options Option Sets Alerts										
+ C X X T DHCP Config DHCP Setup										
Name 🛆	Interface	Relay	Lease Time	в	Address Pool	Add AR				
dhcp1	dhcp			00:10:00	dhcp_pool1	no				
DHCP Server	DH	CP Setup								
	Setup has completed successfully									
		<u></u>								

6. Konfigurasi DHCP Server Interface WLAN 1, buat range ip 2 - 100



a. AKSES INA	AT Internace Dric	7			
💬 Switch					
°IS Mesh	ARP	Firewall			
	Accounting	Filter Rules NAT M	angle Service Ports	Connections A	ddress Lists Layer7 Protocols
MPLS N	Addresses	+- ~*	🔄 🍸 🔚 Re	eset Counters	Reset All Counters
🔀 Routing	Cloud	# Action Ch	ain Src. Addres	s Dst. Address	Proto Src. Port Dst. Port Ir
🎲 System 🗈	DHCP Client				
🙊 Queues	DHCP Relay	4			
Files	DHCP Server				
E Log					
🧟 Radius					
🔀 Tools 🗈	IPsec				
Mew Terminal				<b>6</b>	A X . 1.P.
Chain = srchat -	$\rightarrow$ Src.Address = 1	92.168.X.0/24	network inte	ertaces dhc	$p \rightarrow public$
NAT Rule <192.168.	80.0/24>			•	
General Advanced	d Extra Action Sta	tistics		5	ОК
Chain:	srcnat				Cancel
Src. Address:	192.168.80.0/24			6 🖌	Apply
Dst. Address:				•	Disable
Protocol:				•	Comment
Src. Port:					Сору
Dst. Port:					Remove
Any. Port:					Reset Counters
In. Interface:				7	Paget All Countern
	au de lite			- ¥	Reset Air Counters
Out. Interrace:				· · · · · ·	
Action = masque	erade				
NAT Rule <192.168.	80.0/24>				
General Advanced	d Extra Action Sta	tistics		2	<b>10</b> OK
Action: mas	squerade			•	Cancel
	Log				Apply
Log Prefix:				•	Disable
					Comment

7. Konfigurasi Firewall NAT Access Website a. Akses NAT interface DHCP

b. Akses NAT interface WLAN 1, akses time jam 7.00 s/d 19.00 wib

	Firewall									
	Filter Rule	s NAT	Mangle	Service Por	ts Connections	Addr	ess Lists	Laye	er7 Proto	cols
L	+ -	X	8	₹	Reset Counters	00 F	Reset All (	Count	ers	
	# /	ction		Chain	Src. Address		Dst. Add	ress	Proto	Src. I
	0	±II masqu	erade	srcnat	192.168.80.0/24					

Tambahkan lagi Firewall NAT baru untuk Wlan 1

$Chan = Sichat \times Sich Autics = ISE$		
NAT Rule <192.168.81.0/24>		
General Advanced Extra Action Statistic	cs 2 🔪 [	OK
Chain: srcnat	Ţ	Cancel
Src. Address: 192.168.81.0/24	<u> </u>	Apply
Dst. Address:	▼	Disable
Protocol:	▼ [	Comment
Src. Port:	<b></b>	Сору
Dst. Port:	<b></b>	Remove
Any. Port:	· · · · · · · · · · · · · · · · · · ·	Reset Counters
In. Interface:	4	Reset All Counters
Out. Interface: public	₹▲	
Tab Extra → Time = 07:00:00 – 19:0	00:00	
NAT Rule <192.168.81.0/24>		

## Chain = srcnat → Src.Address = 192.168.Y.0/24 (network interfaces wlan1) → public

-	
General Advanced Extra Action Statistics	OK
-▼- Connection Limit - 5	Cancel
	Apply
	Disable
Time: 07:00:00 7	Comment
✓ sun ✓ mon ✓ tue ✓ wed ✓ thu ✓ fri ✓ sat	Сору
-▼- Src. Address Type	Remove
-▼- Dst. Address Type	
	Reset Counters
-▼- Hotspot	Reset All Counters
-▼- IP Fragment	

NAT Rule <192.168.81.0/24>	
General Advanced Extra Action Statistics	<b>10</b> OK
Action: masquerade	Cancel
	Apply
Log Prefix:	▼ Disable
	Comment

#### Hasil Firewall NAT Akses Internet

Firewall										
Filter Rules	NAT	Mangle S	ervice Ports	Connectio	ns Addres	s Lists	Layer7 Proto	cols		
+ -			🖌 🖾 Res	set Counter	oo Re	set All Co	ounters	Find	all	₹
# Ac	tion	Chain	Src. Address	s D	st. Address	Proto	Src. Port	Dst. Port	In. Inter	Out. II 🔻
0 ≓	mas	srcnat	192.168.80.	0/24						public
1 ≓	mas	srcnat	192.168.81.	0/24						public
	<b>1</b> .	1				0 A A		0.0		. I

8. Hasil Firewall NAT Transparent Proxy a. Transparent Proxy Interface DHCP



Tambahkan lagi Firewall baru untuk Wlan 1

#### b. Transparent Proxy Interface WLAN-1

NAT Rule <80>	
General Advanced Extra Action Statistics	ОК
Chain: dstnat	Cancel
Src. Address:	Apply
Dst. Address:	Disable
Protocol: 6 (tcp)	Comment
Src. Port:	Сору
Dst. Port: 80	Remove
Any. Port:	Reset Counters
In. Interface: Wan1	Reset All Counters

NAT Rule <80>	
General Advanced Extra Action Statistics	9 OK
Action: redirect	Cancel
Log	Apply
Log Prefix:	Disable
To Ports: 8080	Comment
	Сору

#### Hasil konfigurasi firewall NAT akses Internet dan Transparent Proxy

Firewall											
Filter F	Rules NAT	Mangle	Service Ports	Connecti	ons	Addres	s Lists	Layer7 Proto	ocols		
+	- 🖉 💈	3	🝸 🖾 Re	set Counte	rs	oo Re	set All Co	ounters	Find	all	₹
#	Action	Chain	Src. Addres	s I	Dst. A	ddress	Proto	Src. Port	Dst. Port	In. Inter	Out. Ii
0	≓∥ mas	srcnat	192.168.80	.0/24							public
1	≓∥ mas	srcnat	192.168.81	.0/24							public
2	≓ll redir	dstnat					6 (tcp)		80	dhcp	
3	≓ll redir…	dstnat					6 (tcp)		80	wlan1	

9. Konfigurasi Block Ping dari Client Kabel

```
Tab menu Filter Rules \rightarrow add (+) \rightarrow chain = input \rightarrow src = X.2 – X.50 \rightarrow dst =192.168.X.1
```

- 7	Grewall						
	Filter Rule	s NAT Mangle	Service Ports Connec	tions Address Lists	Layer7 Prot	tocols	
-	+ -	<ul><li>✓ X</li></ul>	T 00 Reset Count	ters 00 Reset All	Counters	Find	all 🔻
2/	# /	Action Chain	Src. Address	Dst. Ad	Idress	Protocol	Src. Po 🔻
	Firewall R	ule <192.168.80.2-	192.168.80.50->192.168.	80.1>			
	General	Advanced Extra	Action Statistics				ОК
		Chain: ing	put			₹	Cancel
		Src. Address:	192.168.80.2-192.168.80	0.50		▲	Apply
	3	Dst. Address: 🗌	192.168.80.1				Disable
		Protocol:	1 (icmp)			₹ ▲	Comment
		Src. Port:					Сору
		Dst. Port:				-	Remove

### Tab Action = drop

Firewall Rule <192.168.80.2-192.168.80.50->192.168.80.1>	
General Advanced Extra Action Statistics	5 ок
Action: drop	Cancel
4	Apply
Log Prefix:	Disable
	Comment

## Tambahkan filter untuk gateway 192.168.Y.1

Firewall R	ule <192.168.80.2-192.168.80.50->192.168.81.1>	
General	Advanced Extra Action Statistics	ОК
$7_{1}$	Chain: input	Cancel
ľ	Src. Address: 192.168.80.2-192.168.80.50	Apply
	Dst. Address: 192.168.81.1 2	Disable
	Protocol: 1 (icmp)	Comment
	Src. Port:	Сору

Firewall Rule <192.168.80.2-192.168.80.50->192.168.81.1>	
General Advanced Extra Action Statistics 4	ОК
Action: drop	Cancel
3 N	Apply
Log Prefix:	Disable
	Comment

## Tambahkan filter untuk gateway 192.168.110.X

Firewall							
Filter Rule	s NAT Mangle	Service Ports	Connections	Address Lists	Layer7 Prot	ocols	
+ -	✓ X	7 00 Re	set Counters	00 Reset All (	Counters	Find	all 🔻
# /	Action Chain	Src. Addres	s	Dst. Ad	dress	Protocol	Src. Po 🔻
Firewall R	ule <192.168.80.2-	192.168.80.50->	192.168.255.8	0>			
General	Advanced Extra	Action Stat	istics			3	ОК
	Chain: ing	out				Ţ	Cancel
	Src. Address:	192.168.80.2-1	92.168.80.50				Apply
	Dst. Address: 🗌	192.168.255.80	) <b>2</b>				Disable
	Protocol:	1 (icmp)				₹ ▲	Comment
	Src. Port:					<b>•</b>	Сору

Firewall Rule <192.168.80.2-192.168.80.50->192.168.255.80>	
General Advanced Extra Action Statistics 5	ОК
Action: drop	Cancel
4 <b>\</b>	Apply
Log Prefix:	Disable
	Comment

## Hasil konfigurasi filter access block ping

Firewall								
Filter Ru	ules NAT	Mangle	Service Ports Connection	ns Address Lists	Layer7 Protocol	s		
+	- 0	× 🖻	🝸 🖾 Reset Counters	00 Reset All C	ounters	Find	all	₹
#	Action	Chain	Src. Address	Dst. Add	dress Pro	tocol	5	Src. Po 🔻
0	🗙 drop	input	192.168.80.2-192.168.8	0.50 192.168	.80.1 1 (id	cmp)		
1	🗙 drop	input	192.168.80.2-192.168.8	0.50 192.168	.255.80 1 (ie	cmp)		
2	🗙 drop	input	192.168.80.2-192.168.8	0.50 192.168	.81.1 1 🤅	cmp)		

## 10. Konfigurasi Logging Access

## Pada menu Filter Rules tambahkan (+) filter log → Chan

Firewall										
Filter Rules	NAT	Mangle	Service Por	ts Connections	Addre	ss Lists	Layer7 P	rotocols		
7 + -	× ×	: 🔳	7 00	Reset Counters	oo R	eset All C	Counters	Fi	nd	all 🔻
# A	ction	Chain	Src. Add	ress		Dst. Ad	dress	Protocol		Src. Po 🔻
0 🕽	¢ drop	input	192.168.	80.2-192.168.80.	50	192.168	3.80.1	1 (icmp)		
1 🕽	¢ drop	input	192.168	80.2-192.168.80.	50	192.168	3.255.80	1 (icmp)		
2 🕽	¢ drop	input	192.168.	80.2-192.168.80.	50	192.168	3.81.1	1 (icmp)		
Firewall Ru	Firewall Rule <>									
General	Advance	ed Extra	Action S	tatistics					_ [	ОК
	C	hain: inp	ut					1		Cancel
Src. Address: Apply										
	Dst. Address:  Disable									
	Prot	ocol:						•		Comment

#### Tab Action = Log

Firewall Rule <>	
General Advanced Extra Action Statistics	5 ОК
Action: log	▼         Cancel
	Apply
Log Prefix:	▼ Disable
·	Comment

## Hasil konfigurasi Filter untuk block ping dan logging

Firewall									
Filter F	Rules NAT	Mangle	Service Ports	Connections	Address Lists	Layer7 F	rotocols		
+	🛉 🖃 🧭 🖄 🖆 🍸 🚝 Reset Counters <b>00</b> Reset All Counters Find all ∓							₹	
#	Action	Chain	Src. Addres	s	Dst. Ad	Idress	Protocol	Sro	o. Po 🔻
0	💢 drop	input	192.168.80	.2-192.168.80.	50 192.16	8.80.1	1 (icmp)		
1	🗙 drop	input	192.168.80	.2-192.168.80.	50 192.16	8.255.80	1 (icmp)		
2	💢 drop	input	192.168.80	.2-192.168.80.	50 192.16	8.81.1	1 (icmp)		
3	🕒 log	input							

## 11. Konfigurasi Web-Proxy Mikrotik, Block site, file dan konten

a.	Pada Menu IP	> Web Prox	y 🗲 Isikan chace admi	n = nama	peserta@gmai	il.com
----	--------------	------------	-----------------------	----------	--------------	--------

° S Mesh	ARP	Web Provy Settings
255 IP	Accounting	General Status Lookung Insets Befershee
	Addresses	Ok Ok
Porting	Cloud	Enabled     Cancel
Sustan.	DHCP Client	Src. Address: :::
System	DHCP Relay	3 Port: 8080
www.cueues	DHCP Server	Anonymous
- Files	DNS	Reset HTML
	Firewall	6 Access
M Radius	Hotspot	Parent Proxy Port: Cache
X Tools	IPsec	Cache Administrator: dodiasril@gmail.com
	Neighbors	Max Cache Size: upimited FKIR Connections
	Packing	
Partition	Pool	Max Cache Object Size: 2048 KiB Cache Contents
Make Supout.nf	Routes	S Cache On Disk
Manual	SMB	Max. Client Connections: 600
× Ext	SNMP	Max. Server Connections: 600
Bo	Services	Max Fresh Time: 3d 00:00:00
/in	Settings	Serialize Connections
5	Socks	Always From Cache
00	TFTP	
<u>e</u>	Traffic Flow 2	Cache Hit DSCP (TOS): 4
out	UPnP	Cache Path: web-proxy
R	Web Proxy	

b. Redirect website <u>www.mikrotik.com</u> ke <u>www.bsnp-indonesia.org</u>, src = 192.168.X.0/24

Web Hoxy Access			
+ - × ×	O Reset 0	Counters 00	Reset All Counter
# Src. Address	Dst. Address	Dst. Port	Dst. Host
Web Proxy Rule <192.1	68.80.0/24>		
Src. Address: 🔲 192	.168.80.0/24 _2	▲ _	5 <mark>0</mark> K
Dst. Address:		-/	Cancel
Dst. Port:			Apply
Local Port:	3	•	Disable
Dst. Host: 🗌 www	v.mikrotik.com	<b></b>	Comment
Path:			Сору
Method:		<b>•</b>	Remove
Action: deny	4	₹	Reset Counters
Redirect To: www.b	snp-indonesia.org	<b></b>	
Hits: 3			Reset All Counter

c.	Block Website <u>www.linux.or.id</u> ,src-	address = 192.168.Y.0/24
	Web Proxy Access	
1	🕂 🗕 💉 🗶 🗂 🍸 00 Reset Cou	unters 00 Reset All Counters
	# Src. Address Dst. Address	Dst. Port Dst. Host Path
	Web Proxy Rule <192.168.81.0/24>	
	Src. Address: 192.168.81.0/24 2	
	Dst. Address:	Cancel
	Dst. Port:	Apply
	Local Port:	
	Dst. Host: www.linux.or.id 3	
	Path:	
	Method:	
	Action: deny 4	Remove ↓
	Redirect To:	▼ Reset Counters
	13-1	Reset All Counters
α.	Tambankan block file .mp3 pada jalu	ur 192.168.Y.1
1 -	+ - · · · · · · · · · · · · · · · · · ·	rs 00 Reset All Counters
17	# Src. Address Dst. Address Ds	st. Port Dst. Host Path
·	0 • 192.168.80.0/24 1 • 192.168.81.0/24	www.mikrotik www.linux.or.id
	Web Proxy Rule <192.168.81.0/24>	
	Src. Address: 192.168.81.0/24 2	▲ 5 ОК
	Dst. Address:	Cancel
	Dst. Port:	Apply
	Local Port:	Disable
	Dst. Host:	Comment
	Path:	Сору
	Action: depy 4	Remove
	Redirect To:	Reset Counters
		Reset All Counters
e.	Tambahkan block file .mkv pada jalu	ır 192.168.Y.1
	Web Proxy Access	
17	+ - ✓ ★ C Y 00 Reset Counters 0	t Det Host Path
-	0 ● 192.168.80.0/24 1 ● 192.168.81.0/24	www.mikrotik
	2 • 192.168.81.0/24	*.mp3*
	Src. Address: 192.168.81.0/24	▲ <b>5</b> oK
	Dst. Address:	Cancel
	Dst. Port:	Apply
	Local Port:	▼ Disable
	Dst. Host:	Comment
	Path:	Сору
	Action: deny 4	Remove
	Redirect To:	Reset Counters
	Hits: 0	Heset All Counters

Web Proxy Access	ikses conten	t mikroti	k pada jan	Jr 192.168.4.1
+ - 🖌 🗶 🗂	T 00 Reset	t Counters	Beset All Count	ers
# Src. Address 0 ● 192.168.80.0/24 1 ● 192.168.81.0/24 2 ● 192.168.81.0/24	Dst. Address	Dst. Port	Dst. Host www.mikrotik.co www.linux.or.id	Path om *.mp3*
3 • 192.168.81.0/24				*.mkv*
Web Proxy Rule <192.168.8	31.0/24>			
Src. Address: 🖾 192.168	.81.0/24 <b>2</b>		▲5	ок
Dst. Address:			$\checkmark$	Cancel
Dst. Port:				Apply
Local Port:			•	Disable
Dst. Host:			-	Commont
Path: 🔲 *mikrotik	. 3		▲	Comment
Method:			•	Сору
Action: deny	4			Remove
Redirect To:			·	Reset Counters
			·	Reset All Counters
Hits: 12				
Iasil Konfigurasi bl	ock website	, file dan c	ontent	
Web Proxy Access				
<b>+</b> -	= <b>7</b> ≔ I	Reset Counters	s 🔚 Reset /	All Counters
# Src Address	Dst Addres	e Det	Port Det Ho	st Pat

4			🍸 🔚 Reset Co	unters 😂	Reset All Counters		Find	
1	ŧ	Src. Address	Dst. Address	Dst. Port	Dst. Host	Path	Method	Ac 🔻
	0	192.168.80.0/24			www.mikrotik.com			deny
	1	192.168.81.0/24			www.linux.or.id			deny
	2	192.168.81.0/24				*.mp3*		deny
	3	192.168.81.0/24				*.mkv*		deny
	4	192.168.81.0/24				*mikrotik*		deny

h. Terakhir close web proxy access  $\rightarrow$  OK

Web Proxy Settings	
General Status Lookups Inserts Refreshes	ОК
Enabled	Cancel
Src. Address: ::	Apply
Port: 8080	Clear Cache
Anonymous	Reset HTML
Parent Proxy:	Access
Parent Proxy Port:	Cache

**12.** Konfigurasi NTP – Server, System  $\rightarrow$  Clock  $\rightarrow$  Pilih Asia/Jakarta  $\rightarrow$  Apply  $\rightarrow$  OK

	Auto Upgrade	Clock		Clock	
E PPP	Certificates	Time Manual Time Zone	ОК	Time Manual Time Zone	ОК
°IS Mesh	Clock 2	Time: 03:34:14	Cancel	Time: 10:34:43	Cancel
<u>255</u> IP^	Console	Date: Mar/13/2019	Apply	Date: Mar/13/2019	Apply
MPLS 1	Disks	✓ Time Zone Autodetect		✓ Time Zone Autodetect	
🔀 Routing 🖌 🗅	Drivers	Time Zone Name Asia/Jakarta 🔻	4/	Time Zone Name: Asia/Jakarta 🔻	
🌐 System 🗈 🗈	Health		-	GMT Offset +07:00	
🙊 Queues	Identity	GMT Offset: +00:00 3		DST Active	
Files	LEDs	DST Active		Waktu telah disingkror	า
Log					

Lanjut aktifkan NTP Server  $\rightarrow$  System  $\rightarrow$  SNTP Client  $\rightarrow$  Gunakan IP Gateway 192.168.110.1 pada primary dan secondary, karena router gateway internet sudah ada NTP Server. "Jika tidak isikan primary = id.pool.ntp.org secondary = ntp.nasa.gov"

🔀 Routing 🗈 🗈	Drivers						
🚳 System 🕟 🗅	Health	SNTP Client			SNTP Client		
	History		Enabled	ОК		✓ Enabled	ОК
	Identity	Mode:	broadcast	Cancel	Mode:	unicast	Cancel
Files	LEDs	Primary NTP Server:	192.168.110.1	Apply	Primary NTP Server:	192.168.110.1	Apply
Log	License	Secondary NTP Server	192.168.110.1	1	Secondary NTP Server:	192.168.110.1	
🥂 Radius	Logging	Server DNS Names:	<b>~</b>	$I_4$	Server DNS Names:	<b></b>	
X Tools	Packages	Dynamic Servers:	3	.	Dynamic Servers:		
New Terminal	Pageword	Poll Interval:	0 s		Poll Interval:	32 e	1 I
E MetaROUTER	Pata	Active Server			Active Server	192 168 110 1	
🕭 Partition	Polis	Last Undate From:			Last Lindate From:	192 168 110 1	
📑 Make Supout.rif	Reboot	Last Update:			Last Undate:	00:00:05 aco	
😧 Manual	Reset Configuration	aet Adjuetment:			Last Adjustment:	1.493.600 us	
📕 Exit	Resources					1455 000 05	aktif
2	Routerboard	Last Bad Packet From:			Last Bad Packet From:	uer suda	n
	SNTP Client	Last Bad Packet:			Last Bad Packet:	NTP Serve.	
	Scheduler	Last Bad Packet Reason:			Last Bad Packet Reason:	<i>IA</i> .	
	0.11	<u> </u>					

## **C. TAHAPAN PENGUJIAN HASIL KONFIGURASI**

## PENGUJIAN JALUR KABEL – PORT DHCP

1. Pengujian Logging Mikrotik, Klik menu Log pada Winbox

0	admin@192.168.80	).1 (Mikro	Tik) - WinBox v6.	30.4 on RB951Ui-2HnD (mipsbe) 🛛 🗕 🗖	x
Safe Mode				✓ Hide Passwords	
🔏 Quick Set	Log			]	IX
CAPsMAN	Freeze			all	Ŧ
Interfaces	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP	•
2 Wireless	M (10/2010 15 02 24		D	(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	_
😹 Bridge	Mar/10/2019 15:02:34	memory	firewall, info	(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
PPP	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP (ACK) 192 168 80 100-50503-192 168 80 1-8291 Jap 40	
🛫 Switch	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP	
°t\$ Mesh				(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
<u>≥55</u> IP ►	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP (ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
🖉 MPLS 🛛 🗅	Mar/10/2019 15:02:34	memory	firew loces	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP	
🔀 Routing 🗈	M /10 /2010 15:02:24	ogil	ng ingsi	(ACK,PSH), 192.168.80.100:50503->192.168.80.1:8291, len 109	
🚯 System 🗅	Mar/ 10/2019 15:02:34	Le Bo	Bernorio	(ACK,PSH), 192.168.80.100:50503->192.168.80.1:8291, len 109	
🙊 Queues	Mar/10/2019 15:02:34	rela	firewall, info	input: in:dhep out:(none), sre-mac 74:d0:2b:75:26:e1, proto TCP (ACK) 192 168 80 100:50503->192 168 80 1:8291 Jen 40	
📄 Files 🖌	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP	
🖹 Log				(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
🗙 🎊 Radius	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP (ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
🖉 🔀 Tools 🗈 🗅	Mar/10/2019 15:02:34	memory	firewall, info	input: in:dhcp out:(none), src-mac 74:d0:2b:75:26:c1, proto TCP	
🗧 🔳 New Terminal	Mar/10/2019 15:02:35	memory	firewall, info	(ACR), 132.168.60.100.50505-2132.168.60.1.6251, 161.40 input: in:dhcp.out:(none). src-mac 74:d0:2b:75:26:c1. proto TCP	-
🚬 🔜 MetaROUTER				(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	
💍 🤚 Partition	Mar/10/2019 15:02:35	memory	firewall, info	input: in:dhep out:(none), src-mac 74:d0:2b:75:26:e1, proto TCP	
0 Make Supout rif				(ACK), 192.168.80.100:50503->192.168.80.1:8291, len 40	-

- 2. Pengujian Izin Akses dan Block Ping
  - a. Pengujian IP DHCP Client, konfigurasikan IP Client pada secara automatically

Obtain an IP address automatica	lly			
Ouse the following IP address: —				
IP address:		1.		
Subnet mask:				
Default gateway:				
Preferred DNS server:	dresses:			
Alternate DNS server:				
Validate settings upon exit			Advanced	

b. Jalankan Command Prompt  $\rightarrow$  ketik **ipconfig** (lihat ip yang didapat)

🖬 C:\Windows\system32\cmd.exe – 🗆 🔼	<
C:\Users\Dodheex_Mentawaiz	^
Windows IP Configuration	
Wireless LAN adapter Local Area Connection* 2:	
Media State Media disconnected Connection-specific DNS Suffix . :	
Wireless LAN adapter Wi-Fi:	
Media State Media disconnected VP your Connection-specific DNS Suffix . :	
Ethernet adapter Ethernet:	
Connection-specific DNS Suffix .: Link-local IPv6 Address : fe80:-d163:392b-d371:f501%3 IPv4 Address : 192.168.80.100 Subnet Mask : 255.255.0 Default Gateway : 192.168.80.1	
Tunnel adapter Teredo Tunneling Pseudo-Interface:	~

- c. Jika IP yang didapat client besar dari 192.168.X.50, berarti client diizinkan untuk melakukan akses ping menuju IP pada setiap Port Mikrotik.
- d. Lakukan pengujian Ping ke setiap Port Mikrotik, hasilnya harus TTL

Microsoft Windows [Version 6.3.9600] (c) 2013 Microsoft Corporation. All rights reserved.
C:\Users\Dodheex_Mentawaiz}ping 192.168.110.80
Pinging 192.168.110.80 with 32 bytes of data: Reply from 192.168.110.80: bytes=32 time<1ms TTL=64 Reply from 192.168.110.80: bytes=32 time<1ms TTL=64
C:\Users\Dodheex_Mentawaiz}ping 192.168.80.1
Pinging 192.168.80.1 with 32 bytes of data: Reply from 192.168.80.1: bytes=32 time<1ms TIL=64 $\leftarrow$ ping ke TTL Reply from 192.168.80.1: bytes=32 time<1ms TIL=64 $\leftarrow$ ping ke TTL
Ping statistics for 192.168.80.1:
C:\Users\Dodheex_Mentawaiz}ping 192.168.81.1
Pinging 192.168.81.1 with 32 bytes of data: Reply from 192.168.81.1: bytes=32 time<1ms TTL=64 Reply from 192.168.81.1: bytes=32 time<1ms TTL=64 Reply from 192.168.81.1: bytes=32 time<1ms TTL=64
Ping_statistics for 192.168.81.1:

e. Pengujian Block Akses Ping, Isikan IP Client antara Range 192.168.X.2 – 192.168.X.50

<ul> <li>Obtain an IP address automatic</li> </ul>	ally
Ouse the following IP address:	
IP address:	192.168.80.50
Subnet mask:	255.255.255.0
Default gateway:	192.168.80.1
Preferred DNS server:	8.8.8.8
Preferred DNS server:	8.8.8.8
Alternate DNS server:	• • •
Validate settings upon exit	Advanced

f. Lakukan pengujian Ping ke setiap Port Mikrotik, hasilnya haruslah *Request Time Out (RTO)* 

Microsoft Windows IUersion 6.3.96001 (c) 2013 Microsoft Corporation. All rights reserved. C:\Users\Dodheex\_Mentawaiz ping 192.168.110.80 Pinging 192.168.110.80 with 32 bytes of data: Request timed out. Request timed out. C:\Users\Dodheex\_Mentawaiz ping 192.168.80.1 Pinging 192.168.80.1 with 32 bytes of data: Request timed out. Request timed out. Request timed out. C:\Users\Dodheex\_Mentawaiz ping 192.168.81.1 Pinging 192.168.81.1 with 32 bytes of data: Request timed out. Request timed out.

 Pengujian block website <u>www.mikrotik.com</u>, di redirect ke <u>www.bsnp-indonesia.org</u> Ketik di URL <u>www.mikrotik.com</u> → ENTER



Akses web mikrotik.com dialihkan oleh router ke bsnp-indonesia.org





## **PENGUJIAN JALUR WIRELESS – PORT WLAN 1**

1. Pengujian Block Website www.linux.or.id

ERROR: Forbidden X	+					
← → ⊂ 奋	i www.linux.or.id	R				
ERROR: Forbidden						
While trying to retrieve the URL h	While trying to retrieve the URL <u>http://www.linux.or.id/</u> :					
Access Denied						
Your cache administrator is <u>dodiasril@gmail.com</u> .						
		-				

Generated Sun, 10 Mar 2019 09:14:06 GMT by 192.168.80.1 (Mikrotik HttpProxy)

Pegujian Blok file dengan ekstension .mp3, ketik pada url link = <u>https://bit.ly/2BQtzxY</u> (link disediakan, karena tidak semua website yang ekstensi .mp3 bisa di-block) link ini merupakan salah satu yang bisa diblock oleh mikrotik file ekstensi .mp3-nya.

ERROR: Forbidden	🗙 👛 Save -	Download Lagu Akad - P 🗙 🕂					
$\overleftarrow{\leftarrow}$ > C' $\textcircled{a}$	() <b>D</b>	https://downloadlagu-mp3.net/akad	-payung-teduh-by-ł	anin-dhiya~NwyFY		ि 🗘 🤉 Search	
			DOWNLOAD	DLAGU-MP3.NE	т		
		Masukkan nama lagu dan k	lik cari			CARI	
			Save-Download lagu	tombol below / dibaw	ah		
		Akad - Payung Teduh by Hani	n Dhiva				
		Mp3 File Size: 4.19 Mb	. oniya				
		» 99 [	Daftar Lagu Terbai	k, Terpopuler, Terbar	u 2019		
			📩 DOW	NI OAD MP3	_		
					R		
			📩 DOV	VNLOAD MP3			
			📩 DOW	NLOAD VIDEO			
Tampilan blog	k file mn3	senerti dihawah ini					
ERROR: Forbidden	× ERROR: Forbidd		•				
		122 link /download /h26 cf021002f01102cc	-22606766099/14664	20672doc2190°	. 🖂 🕹 🖸	Search	7
	U unagu	123.IIIK/d0w110a0/030cl021002191102cc0	.32030136300/14834	20175020315000		Search	
ERROR: Forbid	den						
While trying to retrieve the	URL http://dl.lagu12	23.link/download/b36cf021002f91102ccc	c3269b75e988/14a54	f20f73dec319088e5e68	aa649c0 mp3?na	me=Akad%20-%20Pavun	g%20Teduh
%20%20by%20Hanin%20	Dhiya:						
Access Denied							
Your cache administrator i	s <u>dodiasril@gmail.co</u>	<u>m</u> .					
Generated Sun, 10 Mar 20	19 09:15:35 GMT by	192.168.80.1 (Mikrotik HttpProxy)					
	<b>C</b> 11 1						
Pegujian Blok	file denga	n ekstension .mkv, k	etik pada i	url link = <u>htt</u>	ps://bit.	<u>ly/2NqyHNK</u>	<u>[</u>
ERROR: Forbidden	× ERROR: F	Forbidden 🛛 🗙 🥜 Jellyfi:	sh Bitrate Test Files	×   +			
(←) → 健 @	() (	) jell.yfish.us			•	⊠ ☆	
	Jellyfish \	/ideo Bitrate Test File	es				
	Below al playback	re a number of H.264 and H.265/ c performance of media streamer	HEVC encoded . s & HTPCs.	mkv video clips that	t can be used	for testing the	
	I've noticed that Please link onl	at others are mirroring these files y to the original http://www.jell.yfi	on their own serv sh.us site and thr	ers without a returr ow fruit at anyone h	n link (or credi nosting these	t of ANY sort files without ç	
	Show	All O Show Only I	1.264	⊖ Show Or	nly HEVC		
	Filename	mlaad)	Bitrate	Decelution	Codes	Brofile	
	jellyfish-3-mbr	os-hd-h264.mkv	3 Mbps	1920x1080	H.264	High	
	jellyfish-3-mbp	os-hd-hevc.mkv	3 Mbps	1920x1080	HEVC	Main	
	jellyfish-3-mbp	os-hd-hevc-10bit.mkv	3 Mbps	1920x1080	HEVC	Main10	
	jellyfish-5-mbp	os-hd-h264.mkv	5 Mbps	1920x1080	H.264	High	
Tampilan bloo	ck file .mkv	seperti dibawah ini.					
ERROR: Forbidden	×	ERROR: Forbidden	× ERROR: F	orbidden	× +		

← → ℃ ✿	iell.yfish.us/media/jellyfish-3-mbps-hd-h264.mkv

#### **ERROR:** Forbidden

While trying to retrieve the URL <u>http://jell.yfish.us/media/jellyfish-3-mbps-hd-h264.mkv</u>:

• Access Denied

3.

Your cache administrator is dodiasril@gmail.com.

Generated Sun, 10 Mar 2019 09:17:21 GMT by 192.168.80.1 (Mikrotik HttpProxy)

**4.** Pengujian blok content "mikrotik". Lakukan search pada google seperti contoh dibawah.



ERROR: Forbidden	ERROR: Forbidden	ERROR: Forbidden	×	ERROR: Forbidden	×	< +
$\overleftarrow{\leftarrow}$ $\rightarrow$ C' $\overleftarrow{\omega}$	i salmantkj48.blogspot.com/	③ salmantkj48.blogspot.com/2015/02/pengertian-mikrotik-fungsinya.html				⊠ ☆

#### ERROR: Forbidden

While trying to retrieve the URL http://salmantkj48.blogspot.com/2015/02/pengertian-mikrotik-fungsinya.html:

#### • Access Denied

Your cache administrator is dodiasril@gmail.com.

Generated Sun, 10 Mar 2019 09:18:58 GMT by 192.168.80.1 (Mikrotik HttpProxy)

# **KONFIGURASI MIKROTIK MENGGUNAKAN CLI / TERMINAL**

- 1. Reset Mikrotik system reset-configuration no-defaults=yes
- 2. Nama Interface interface set ether1 name=public interface set ether1 name=dhcp
- 3. Set Wireless interface wireless enable 0 interface wireless set 0 mode=ap-bridge ssid=Nama\_Peserta@Proxy
- 4. IP Address

*ip address add address=192.168.110.X/24 interface=public ip address add address=192.168.X.1/24 interface=dcp ip address add address=192.168.Y.1/24 interface=wlan1* 

5. Routing *ip route add dst-address=0.0.0.0/0 gateway=192.168.110.1* 

- 6. DNS Server *ip dns set servers=192.168.110.1,8.8.8.8 allow-remote-request=yes*
- 7. DHCP Server Intefaces DHCP
- *ip dhcp-server setup*Select interface to run DHCP server on
  dhcp server interface: *dhcp*Select network for DHCP addresses
  dhcp address space: *192.168.X.0/24*Select gateway for given network
  gateway for dhcp network: *192.168.X.1*Select pool of ip addresses given out by DHCP server
  addresses to give out: *192.168.X.2-192.168.X.100*Select DNS servers *dns servers: 192.168.110.1,8.8.8.8*Select lease time
  lease time: *10m*
- 8. DHCP Server Intefaces WLAN1

### ip dhcp-server setup

Select interface to run DHCP server on dhcp server interface: *wlan1* Select network for DHCP addresses dhcp address space: *192.168.Y.0/24* Select gateway for given network gateway for dhcp network: *192.168.Y.1* Select pool of ip addresses given out by DHCP server addresses to give out: *192.168.Y.2-192.168.Y.100* Select DNS servers dns servers: *192.168.110.1,8.8.8.8* Select lease time lease time: *10m* 

- 9. NAT Gateway Internet Port DHCP ip firewall nat add chain=srcnat src-address=192.168.X.0/24 out-interface=public action=masquerade
- 10. NAT Gateway Internet Port WLAN1 *ip firewall nat add chain=srcnat src-address=192.168.Y.0/24 out-interface=public time=7h-19h,sun,mon,tue,wed,thu,fri,sat action=masquerade*
- 11. Transparent Proxy Port DHCP *ip firewall nat add chain=dstnat protocol=tcp dst-port=80 in-interface=dhcp action=redirect to-ports=8080*
- 12. Transparent Proxy Port WLAN1 *ip firewall nat add chain=dstnat protocol=tcp dst-port=80 in-interface=wlan1 action=redirect to-ports=8080*

13. Block Access Ping

*ip firewall filter add chain=input src-address=192.168.X.2-192.168.X.100 dst-address=192.168.110.X protocol=icmp action=drop* 

*ip firewall filter add chain=input src-address=192.168.X.2-192.168.X.100 dst-address=192.168.X.1 protocol=icmp action=drop* 

*ip firewall filter add chain=input src-address=192.168.X.2-192.168.X.100 dst-address=192.168.Y.1 protocol=icmp action=drop* 

### 14. Logging

ip firewall filter add chain=input log=yes log-prefix=yes

15. Web Proxy

*ip proxy set enabled=yes port=8080 cache-administrator=namapeserta@smkn1.sch.id cache-on-disk=yes* 

#### 16. Proxy Access

*ip proxy access add src-address=192.168.X.0/24 dst-host=www.mikrotik.com redirect-to=www.bsnp-indonesia.org action=deny* 

ip proxy access add src-address=192.168.Y.0/24 dst-host=www.linux.or.id action=deny

ip proxy access add src-address=192.168.Y.0/24 path=\*.mp3\* action=deny

ip proxy access add src-address=192.168.Y.0/24 path=\*.mkv\* action=deny

ip proxy access add src-address=192.168.Y.0/24 path=\*mikrotik\* action=deny

17. Set Clock/Time

### system clock set time-zone-autodetect=yes time-zone-name=Asia/Jakarta

18. NTP Server system ntp client set enabled=yes primary-ntp=192.168.110.1 secondary-ntp=192.168.110.1

\*\*\* SELESAI \*\*\*